

DIPTERA FROM NEPAL

BOMBYLIIDAE

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SYNOPSIS

From material collected on the British Museum East Nepal Expedition 1961-1962, *Cyrtosia amnicola* and *Hemipenthes melanus* are described as new; both represent first records of their genera from the area. *Cephenius mucronatus* Enderlein and *Cephenius sikkimensis* Enderlein are redescribed. *Ceratolaemus* Hesse, erected as an aberrant subgenus of *Platypygus* Loew is synonymized with *Cyrtosia* Perris.

SEVEN specimens of Bombyliidae collected by Mr. R. L. Coe while serving as entomologist on the British Museum East Nepal Expedition 1961-1962 comprise four species, belonging to three genera, each in a separate subfamily; two of the species are new. The new species, a *Hemipenthes* and a *Cyrtosia* have strong Palaearctic affinities, while the other species, belonging to *Cephenius*, were both previously known from neighbouring Sikkim.

Subfamily CYRTOSIINAE

CYRTOSIA Perris

Cyrtosia Perris, 1839, *Ann. Soc. ent. Fr.* 8: 55.

Ceratolaemus Hesse, 1938: 969 syn. n.

Twenty-four species of this genus are listed by Engel (1937) from the Palaearctic region. Although *Cyrtosia* has not previously been recorded from the oriental region or from Asia other than Turkmen and Uzbek S.S.R., it is very likely that the genus will occur widely in Central Asia.

Cyrtosia amnicola sp. n.

Head: occiput shining brown-black to black, with short sparse black hair and strongly inflated, lower posterior angle strongly produced backwards into a sharp triangular projection; ocelli prominent, red; frons depressed, shining blackish, edges of frons, band above antennae, face, genae and buccal cavity yellow, buccal margin blackish brown to black; antennae black, second segment with pale apical margin, third broadly oval pale pubescent on inner margin and with a broad apical style which is notably pubescent; proboscis black, finely hairy, palps apparently absent. *Thorax* black, mesonotum shining; humeri broadly, metapleurae and wing base areas pale yellowish, propleurae and a band across upper sternopleurae and hypopleurae also pale yellowish, pleurae thus appearing black with upper and median pale yellow stripes; thoracic pubescence sparse, dark, notopleurae with 2-3 longish dark hairs, and 3 long, more bristly pre-alar hairs; hair across anterior margin of mesonotum and on humeri pale; notum and pleurae densely covered with minute rather iridescent scales. *Abdomen* black, shining, tergites with narrow pale yellow posterior margins, lateral intersegmental areas yellow at base of

Bull. Brit. Mus. (Nat. Hist.), Entom. 17 (5), 1965.

abdomen, venter black with yellowish hind margins to segments; hypopygium black; pubescence sparse, black. *Legs* almost entirely pale yellow, coxae slightly brownish basally, last three segments of each tarsus brownish black; middle femora sometimes slightly brownish basally, hind legs sometimes with femora and tibiae brownish apically; claws black, pulvilli white; pubescence on legs apparently all pale. *Wings* iridescent; venation typical, anal vein rather strongly irregular before margin; veins brownish, microtrichiae pronounced, those along hind margin well developed; alula absent; halteres comparatively large, stalk flattened; mainly yellowish, stalk and base of knob more or less infusate.

Length of body 1.6–2.0 mm.; of wing 1.8–2.3 mm.; of proboscis 0.7–1.0 mm.

Holotype ♂. EAST NEPAL: Taplejung District, Dobhan, c. 3,500 ft, small pockets of plants on arid slopes above R. Maewa, 2.i.1962 (*R. L. Coe*). Brit. Mus. (Nat. Hist.).

Paratypes: 1 ♂, same date as holotype; 2 ♂, Taplejung District, Dobhan, c. 3,500 ft, shady places on shrubby slope above R. Tamur, 21–27.i.1962 (*R. L. Coe*). Brit. Mus. (Nat. Hist.) and author's collection.

C. amnicola runs easily in Engel's key (1937: 105) to *C. nitens* Loew, with which species it agrees in important characters such as the ventrally prolonged head and long proboscis, but is readily separated by differences in colour, such as black antennae, more extensively black buccal area, less extensive yellow mesonotal pattern, the distinctive median yellow pleural line, and paler pubescence on legs.

It may be noted here that Hesse (1938: 969) proposed a subgenus *Ceratolaemus* for a South African species *xanthogrammus* Hesse, which he considered belonged to the genus *Platygygus* Loew. *Ceratolaemus* was differentiated on the absence of a discoidal cell, present in all other species of *Platygygus*, and was separable, according to Hesse, from *Cyrtosia* by several characters, particularly the ventral prolongation of the head behind, longer proboscis, and well developed wing microtrichiae. In fact, none of these characters differentiate *Ceratolaemus xanthogrammus* from *Cyrtosia* as at present constituted, while the open discoidal cell, if this character be accepted as a generic distinction, precludes its allocation to *Platygygus*. *P. xanthogrammus* Hesse should therefore be known as *Cyrtosia xanthogramma* (Hesse) **comb. n.**, and placed in the *C. nitens* group, which also includes *C. amnicola* and several Mediterranean species. *Ceratolaemus* Hesse drops into the synonymy of *Cyrtosia* Perris, at least until a comprehensive revision of the Cyrtosiinae has been carried out.

Subfamily SYSTROPINAE

CEPHENIUS Enderlein

Cephenius Enderlein, 1926, *Wien. ent. Ztg.* **43** (2): 70.

With the exception of *Systropus annulatus* Engel, 1937, all the non-African Old World species of this subfamily are placed in the genus *Cephenius* Enderlein, type-species *Systropus studyi* Enderlein from China. *Cephenius* was separated from *Systropus* on the grounds that the eyes are contiguous, not narrowly separated, in both sexes. This is not a generic character in the Systropinae and there are no other grounds for maintaining *Cephenius* separate from *Systropus*. Since the type-species

of *Systropus* Wied., as well as those of most of the other genera erected by Enderlein (1926a) are African, the formal synonymy of *Cephenius* Enderlein and *Systropus* Wiedemann is best established in a treatment of the African fauna. This will be done in a subsequent contribution. Meanwhile the name *Cephenius* is retained for the two specimens considered here, each representing one of Enderlein's species and both previously known from Sikkim. As the original descriptions are rather less than adequate, the opportunity is taken to redescribe both.

Cephenius mucronatus Enderlein

Cephenius mucronatus Enderlein, 1926a : 82 ; Engel, 1937 : 92.

Head: occiput black, densely white-dusted, especially on lower edges, and clothed with pale yellowish to white hair ; ocellar tubercle brownish ; interocular stripe black ; frons, antennal tubercle, face, genae, buccal margin and cavity yellow, more or less densely silvery pollinose, facial hair longish, not dense, yellowish white ; antennae with first segment for most part brown, yellow at base, black at apex, second and third segments black, pubescence all black, antennal length about 5 mm., proportions 2.5 : 1 : app. 2.0 ; proboscis black, brownish basally, palps yellowish brown. *Thorax* with prominent black-and-yellow pattern ; mesonotum black, humeri and a broad oblique stripe extending well onto mesonotum, anterior half of teguliform lobe, post alar calli broadly, yellow, mesonotum slightly rugose ; pleurae with entire propleural region, most of hypopleurae and metapleurae and upper anterior sternopleurae, together with a broad median metasternal stripe yellow, rest of pleurae and sides of metasternum black, pubescence of thorax short, sparse, dark on black areas, pale, white to yellowish, on yellow areas, pteropleurae with weak tuft of shining yellowish hair ; scutellum black, extreme margin and apex beneath yellow, pubescence black but marginal fringe yellow, scutellar callosities clear yellow, foliate. *Abdomen* with petiole consisting of segments II-V, the latter broadening fairly sharply into club of VI onwards ; I black, II-V ochraceous yellow with broad blackish brown dorsal stripe and narrower ventrolateral brownish stripes ; club brownish yellow, hind margins of segments ochraceous yellow, last sternite entirely so ; pubescence generally black, short, rather sparse, white in ventro-lateral tufts of I, yellow to more or less gold on yellow parts of petiole and on apex at sides and below on margins of club ; posterior fringe of VIII long, fine, yellowish ; ovipositor shining black, semicircular with a median, prominent, sharply pointed, slightly upturned process which has a few prominent apical hairs. *Legs* apparently black-and-yellow banded ; anterior coxae and trochanters entirely yellow, other coxae and trochanters black, femora yellow, extensively brownish above basally, hind pair for most of their length, brownish areas with dense serially arranged black spicules giving appearance of black colour to femora above ; tibiae all yellow but basal halves of hind tibiae densely covered with black spicules, thus appearing black in colour ; tarsi yellow, apical two segments of each tarsus black and basal segment of hind tarsi also densely black spiculate, appearing black basally ; claws black, pulvilli yellowish ; callus of fore femora brownish, minutely pubescent ; fore and mid tibiae with short silvery pubescence, which is not conspicuous or dense ; femora without spines, those on hind tibiae arranged 6, 7, 3. *Wings* brownish subhyaline, yellowish in subcostal cell and slightly yellowish at base and in first basal cell ; veins brownish, *Sc* and *R*₁ yellowish ; with two submarginal cells, discal cross-vein well beyond middle of discal cell, origin of *R*₄ very steep, first posterior cell narrowed at apex ; halteres with brownish yellow stem, yellow knob which is black above near stem.

Length 20-22.5 mm. ; wing 12.5-15 mm. (these figures include those given by Engel, 1926a) ; proboscis about 4.5 mm.

NEPAL : Taplejung District, Sangu, c. 6,200 ft., by rocky stream, 7-16. x. 1961, 1 ♀ (*R. L. Coe*). Brit. Mus. (Nat. Hist.).

Cephenius sikkimensis Enderlein

Cephenius sikkimensis Enderlein, 1926a: 78; Engel, 1937: 95.

Head: occiput black, densely white pollinose, except for three (one median, paired submedian) vertical stripes, which are clear black, pubescence white; ocellar tubercle reddish, ocelli yellow, interocular stripe greyish black; frons, face, genae, buccal margin and cavity and head beneath yellow, all except buccal area and head beneath densely silvery pollinose, facial tuft longish, but not dense, white; antennae with first segment largely yellow, black at apex, second and third black, pubescence all black, antennal length about 4.5 mm., proportions 2-2.5:1:2; proboscis black, brownish below at base, palps yellowish. *Thorax* mainly black, humeral area and a large oblique stripe running well onto mesonotum, anterior half of teguliform lobes, post alar calli broadly, entire propleural area and metapleurae yellow, upper anterior margin of metasternum also dark yellowish, scutellum black; pubescence mainly white, pronotal hair, a broad band along mesonotum, a tuft at upper sternopleural angle and hair at base of scutellum black, a small hair tuft present on pteropleurae, pubescence on metasternum distinctly long and shaggy although sparse; scutellar callosities clear yellow, foliate. *Abdomen* with petiole consisting of segments II-V, latter not greatly expanded at apex, club laterally compressed; colour predominantly yellow, clear sulphury yellowish at base of petiole, becoming reddish yellow on club, I all black, a broad dorsal brownish black stripe on petiole which extends broadly onto VI, II-V also with latero-ventral black stripes extending along greater part of each segment but not reaching either margin; pubescence short, sparse, predominantly black, sides of petiole with golden yellow hair which extends as a narrow band along lower margin of club, on VIII occupying most of ventral part; genitalia reddish yellow, last sternite (tergite as viewed *in situ*) with heavily sclerotised lamellae, and produced at each ventral corner (as viewed *in situ*) into long thin whip-like processes; telomeres with simple rounded but heavily sclerotised apices, aedeagal process ending in a very broad heavily sclerotised formation. *Legs*: anterior coxae and trochanters yellow, mid coxae black basally, yellow at apices, hind coxae black, fore and hind coxae with white pubescence, mid coxae with short black hair; fore legs yellow, a posterodorsal basal area on femora brownish and densely covered with black spicules, callus brown, minutely black pubescent, otherwise femora, tibiae and basal three segments of tarsi clothed with short, sparse silvery pubescence, last two tarsal segments brownish yellow with black hairs; mid legs similar, but femora with more extensive posterodorsal brownish area densely covered with shining black spicules, tibiae with some black spicules anteriorly, last three tarsal segments blackish brown and black haired; hind legs with femora yellow, brownish above almost to apex, densely covered on brown areas with black spicules, tibiae yellow, with dense black spicules above on more than basal half and also medially as a complete ring, basal segment of tarsi with such dense black spicules above that it appears black though ground colour is yellowish brown, other tarsal segments similar although less densely spiculate so that yellowish brown to brown ground colour is more apparent; all claws black, pulvilli whitish; femora without spines, those of hind tibiae strong, 3, 5, 4. *Wings* hyaline, slightly shaded yellowish at base and in costal cell; veins brownish; with two submarginal cells, discal cross vein at about half length of discoidal cell, origin of R_4 steep, first posterior cell only slightly narrowed at apex; halteres with dusky yellowish stem and pale yellow knob.

Length 14.5-17.0 mm.; wing 10.0-11.0 mm. (these figures include those given by Engel, loc. cit.); proboscis about 3 mm.

NEPAL: Taplejung District, Sangu, c. 6,200 ft., mixed vegetation by stream in gully, ix.-x. 1961, 1 ♂ (*R. L. Coe*). Brit. Mus. (Nat. Hist.).

The differences between the above description and that of Enderlein's much briefer original description, particularly in regard to the legs, are due to the superficiality of Enderlein's description. A great many species of *Cephenius* have the very characteristic rows of spicules on the legs so dense that the ground colour may be obscured,

large areas of the legs thus appearing black when in fact the ground colour may be pale yellow or brownish. *C. sikkimensis* is a good example; the ground colour of the legs is predominantly yellow, all the apparent black being due to very dense spicules.

Subfamily **EXOPROSOPINAE**

HEMIPENTHES Loew

Hemipenthes Loew, 1869, *Berl. ent. Z.* 13 : 28 nota.

This genus, which has numerous Asiatic representatives, has not previously been reported from the Southern; Oriental side of the Himalayas. The present collection contains a single specimen representing a distinct species of the *velutinus* Mg. group.

***Hemipenthes melanus* sp. n.**

(Text-fig. 1)

Body black, sides of abdomen, hind margin of abdominal segment VI and all VII and VIII somewhat brownish. *Head*: frons about twice width of ocellar tubercle; antennae with first segment about three times as long as second, combined length slightly less than that of third, latter with bulb-shaped base rather abruptly narrowing at about one-fifth length of segment into apical part, apical style short, transparent reddish; proboscis short, not extending much beyond bases of antennae, palps short; face slightly produced, appearing more prominent because of short proboscis. *Pubescence* almost entirely black, some pale yellowish scales on lower frons and face, collar pale straw-yellow, anterior part of plumula dirty white; no trace of white hair or scales on abdomen, even at sides of I, hair and scales on sides of abdomen long, those at sides of V and VI, especially, markedly tufted, those on posterior half of III and on IV less so, posterior scale fringe of VII long; ovipositor spines delicate, fairly long, reddish basally, transparent yellowish at apices, 6 + 6. *Legs* yellow, coxae and tarsi, except for basal segments, black or blackish; scales on femora and mid and hind tibiae dense, black, spines and spicules all black; claws strongly swollen at bases, but without discrete tooth, pulvilli absent. *Wings* (Text-fig. 1) with extensive deep blackish brown baso-marginal infuscation, characterised by its extension to wing tip in second submarginal cell, the marginal cell completely infuscate except for a small clear subapical spot; yellowish brown fenestrae over cross-veins and bifurcations; venation as for genus, with deep loops in R_{2+3} and R_4 , discal cell slightly widened at apex and very obtuse, first posterior cell and anal cell widely open; squamae dirty white, black edged and black fringed, halteres with dusky stem, knob blackish below, dusky white above.

Length 8.8 mm.; wing 9.5 mm.



FIG. 1. *Hemipenthes melanus* sp. n. Holotype ♀ wing.

Holotype ♀. NEPAL: Arun Valley, below Tumlingtar, River Sabhaya, west shore, c. 1,800 ft., evergreen shrubs on sandy shore, 9-18.xii.1961 (R. L. Coe). Brit. Mus. (Nat. Hist.).

H. melanus is easily separable from *H. velutinus* and *H. praecisus* Loew, to which it appears to be closest, by the characteristic wing infuscation with its extension along the costal margin to the wing tip, and by the entirely black abdomen.

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